



January 23, 2013

Jay Fishback  
Western Utility Contractors, Inc.  
2565 Palmer Ave.  
University Park, IL 60466

RE: 212 E. Ohio Street Thorium Monitoring

Dear Mr. Fishback:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation of a utility trench at 212 E. Ohio St. in Chicago, Illinois. The monitoring was performed on January 14, 2013 – January 16, 2013.

#### Instrumentation

Surface gamma scans were performed by Joel Ahrweiler using a Ludlum Model 2221 Scaler / Ratemeter with attached 2"x2" NaI probe. The instrument was calibrated on November 9, 2012. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 17,915 counts per minute (cpm).

The average background count rate for this location was found to be between 6,400 cpm and 7,600 cpm.

#### Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Data was collected by entering the excavation after each 18 inch lift and recording the highest count rate for the floors and walls to a maximum excavation depth of 40 inches. No soil was stockpiled during the project and all excavated soils were loaded directly into the truck after screening.

The maximum gamma count rates for each 1.5 foot lift are detailed on the attached Radiation Survey Forms. The excavation was delineated into 19 survey areas where the count rates ranged from 6,700 cpm to 10,700 cpm. No count rates were found at any time that exceeded the threshold limit of 17,915 cpm.

#### Additional Monitoring

Since no count rates were identified above the 7.1 pCi/gram threshold limit, no additional soil sampling, air monitoring, or personnel monitoring were performed.

You will need to forward a copy of this report to the City of Chicago Department of Public Health (Attn: Rahmatunsia Begum) with the CDOT Permit Number in the subject line. I will be providing a copy of this report to USEPA, as required.

Thank you for your assistance with this project. If you have any questions or need additional information please call me at (815) 485-6161.

Sincerely,  
Stan A. Huber Consultants, Inc.

A handwritten signature in black ink, appearing to read 'Glenn Huber', with a long horizontal flourish extending to the right.

Glenn Huber, CHP  
President

**Radiation Survey Form**

Location/ Project ID: 212 East Ohio St. Western Utility

Date: Jan 14/15+16, 2013

Technician: Joel Ahrweiler

Inst Model: 2221

Serial No. : 126 497

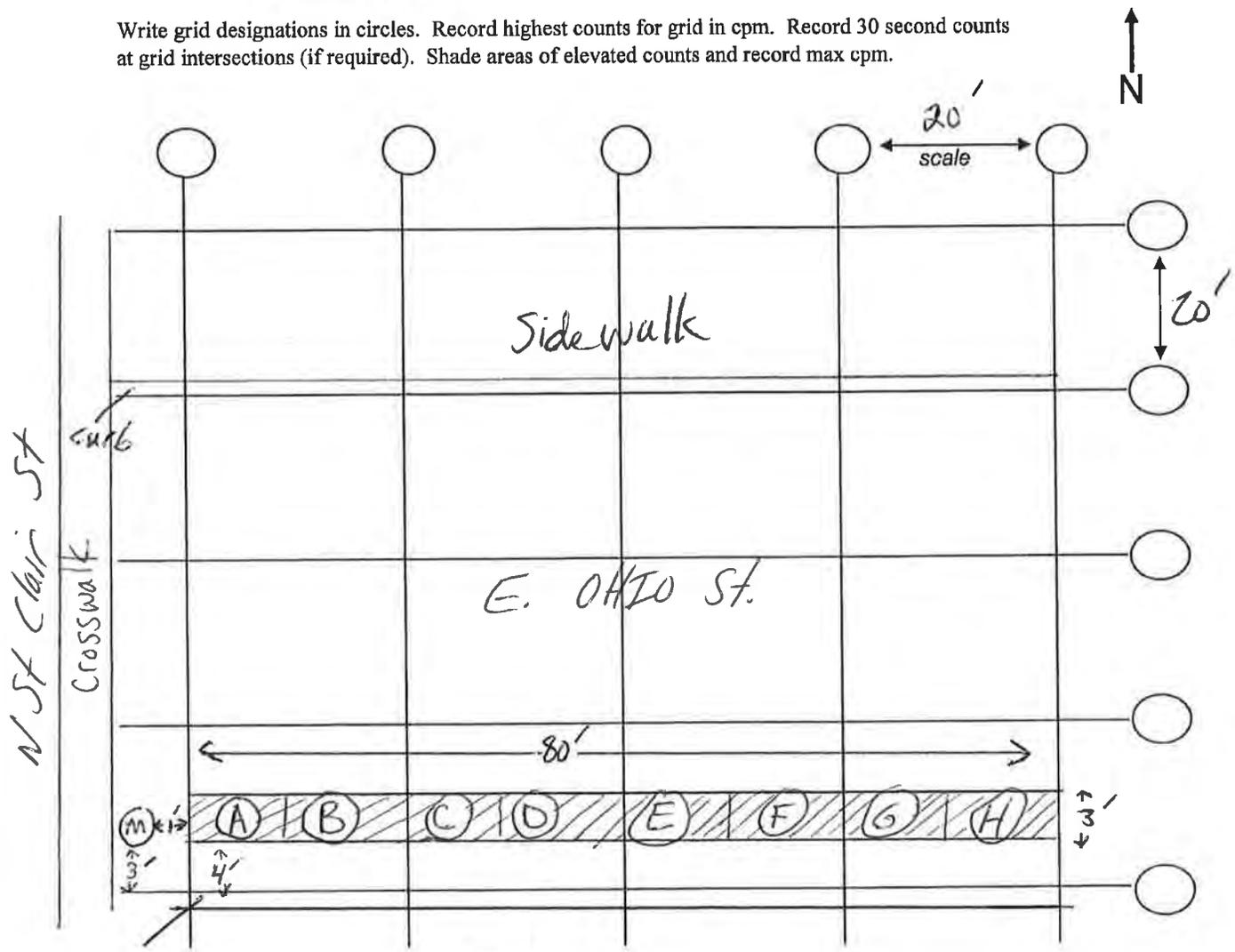
Probe Type:  1"x1" NaI Shielded /  2"x2" NaI Not Shielded

Lift Elevation: max depth -40"

Background 6.4 - 7.6 cpm

Action Level: 17915 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



= Excavated Area

see attached page for survey results

### Radiation Survey Form

Location/ Project ID: 212 East Ohio St. Western Utility

Date: Jan 14, 15 & 16, 2013

Technician: Joel Ahrweiler

Inst Model: 2221

Serial No. : 126497

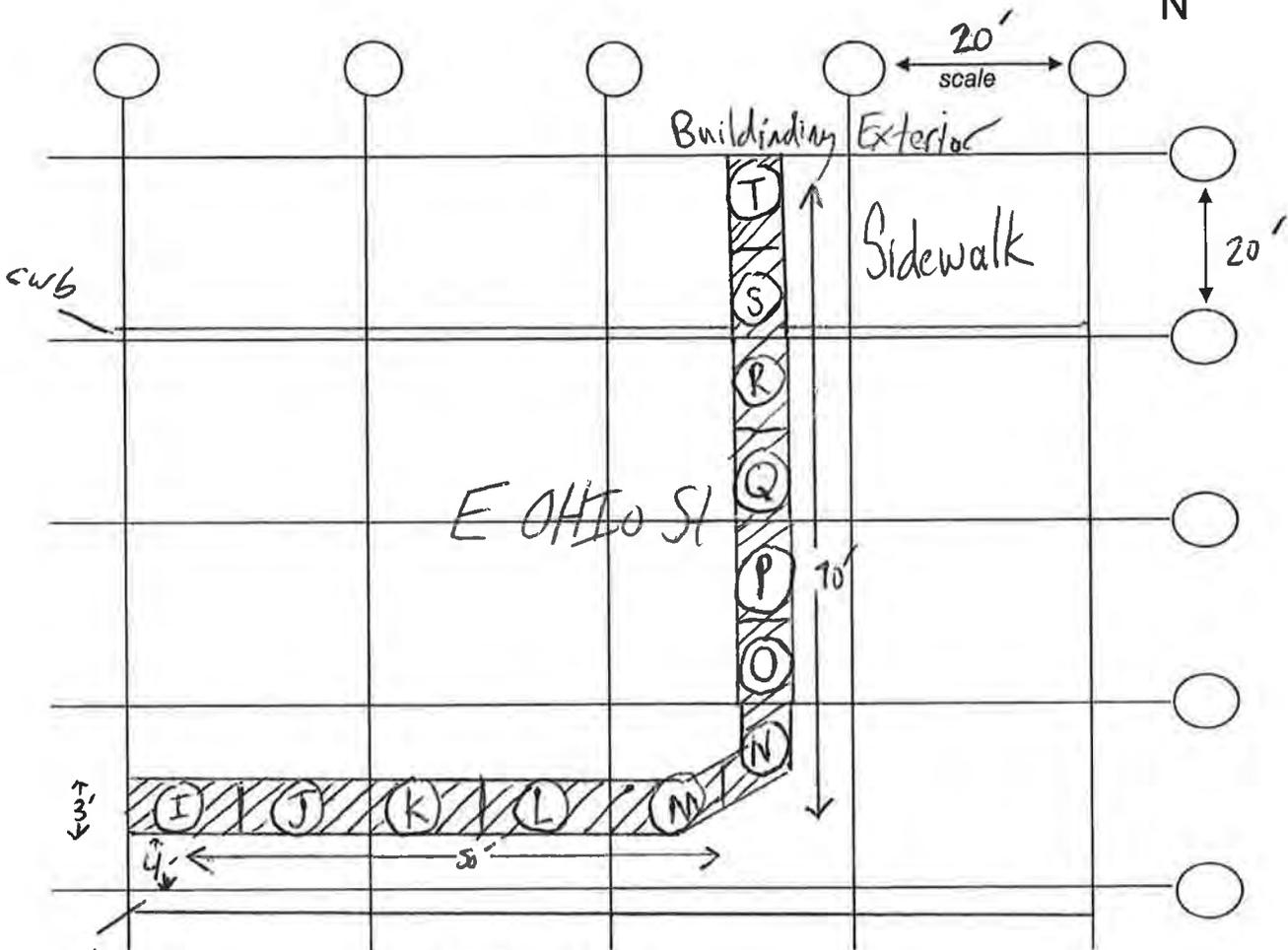
Probe Type: 1"x1" NaI 2"x2" NaI  
Shielded Not Shielded

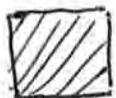
Lift Elevation: Max depth - 40"

Background 6.4 - 7.6 kcpm

Action Level: 17,915 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



 = Excavated Area

see attached page for survey results

# 212 E. Ohio St. Western Utility

January 14, 15 & 16, 2013

| <b>A</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 6700                    |
| -1.5'    | 7400                    |
| - 3'     | 8700                    |
| - 40"    | 9100                    |

| <b>B</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 7200                    |
| -1.5'    | 8100                    |
| - 3'     | 9300                    |
| - 40"    | 8700                    |

| <b>C</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 6900                    |
| -1.5'    | 8400                    |
| - 3'     | 9700                    |
| - 40"    | 10200                   |

| <b>D</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 6700                    |
| -1.5'    | 9500                    |
| - 3'     | 9200                    |
| - 40"    | 8700                    |

| <b>E</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 7100                    |
| -1.5'    | 9300                    |
| - 3'     | 8900                    |

| <b>F</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 7400                    |
| -1.5'    | 8900                    |
| - 3'     | 9400                    |

| <b>H</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 6900                    |
| -1.5'    | 9100                    |
| - 3'     | 8700                    |

| <b>I</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 6800                    |
| -1.5'    | 9300                    |
| - 3'     | 9400                    |

| <b>J</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 7700                    |
| -1.5'    | 8400                    |
| - 3'     | 9400                    |

| <b>K</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 7400                    |
| -1.5'    | 8400                    |
| - 3'     | 8700                    |

| <b>L</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 8100                    |
| -1.5'    | 7700                    |
| - 3'     | 9100                    |

| <b>M</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 6900                    |
| -1.5'    | 8500                    |
| - 3'     | 6800                    |

| <b>N</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 7300                    |
| -1.5'    | 7900                    |
| - 3'     | 6700                    |

| <b>O</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 8400                    |
| -1.5'    | 8100                    |
| - 3'     | 8500                    |

| <b>P</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 8000                    |
| -1.5'    | 9800                    |
| - 3'     | 10100                   |

| <b>Q</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 8000                    |
| -1.5'    | 9400                    |
| - 3'     | 10700                   |

| <b>R</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 8700                    |
| -1.5'    | 8100                    |
| - 3'     | 8400                    |

| <b>S</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 7600                    |
| -1.5'    | 9300                    |
| - 3'     | 7900                    |

| <b>T</b> | Counts per minute (cpm) |
|----------|-------------------------|
| surface  | 8200                    |
| -1.5'    | 8800                    |
| - 3'     | 8700                    |